

REMARKS

Claims 1 and 3-42 are pending. Claim 1 is amended by way of this Amendment. All claims 1 and 3-42, as amended, are believed to be allowable over the references cited by the Examiner as discussed below. Accordingly, a Notice of Allowance for the present application is respectfully requested.

Rejection Under 35 U.S.C. §112, first paragraph

Claim 1 was rejected under 35 U.S.C. 112, first paragraph. However, although “plurality of discrete frequency bands” is believed to be supported in the specification as inherent in the disclosure of multiple frequency bands, the term “discrete” is deleted from claim 1. Multiple frequency bands are disclosed throughout the specification. For example, paragraph [0020], lines 5-9 states “signal processor 122 and 124 include multi-band processors capable of addressing the spectral imbalances which detract from the intelligibility of the voice signals. According to various and more specific embodiments, the multi-band processing may be implemented as any of two, three, four, or five band processing.”

Rejection of claim 1 under 35 U.S.C. 112, first paragraph is respectfully requested.

Rejection Under 35 U.S.C. §102(e)

Claims 1, 3-5, 11-16, 20-25, 27-31, and 33-40 were rejected under 35 U.S.C. 102(e) as being anticipated by Bjarnason.

However, independent claim 1, as amended, generally recites a level adjusting device having first and second signal processors operable to dynamically adjust first and second signal levels associated with corresponding outgoing and incoming signals with reference to the first and second signal levels, respectively, in a plurality of frequency bands.

In contrast, Bjarnason does not disclose and actually teaches away from employing multiple frequency bands. Specifically, Bjarnason states that “the sliding filtering allows for whole band attenuation scaling of the speech signals contained within the entire frequency spectrum that the speech signals occupy.” (Col. 4, lines 53-56). The spectral magnitude of the sliding filter is also shown in FIG. 5 in which the spectral magnitude is a continuum (and not separated into a plurality of frequency bands).

Not only does Bjarnason fail to disclose but Bjarnason actually teaches away from the use of multiple frequency bands. Specifically, Bjarnason states:

Many conventional methods try to employ a certain degree of attenuation of the various paths of the speaker-phone during the different modes of operation. ... For the two-band solutions that are used, an echo canceller is typically run in the lower band, and the upper band is run at half-duplex. In addition, for the multi-band (or polyphase) solutions that are used, a large lag is introduced into the system thereby compromising the perceptual quality of the speech signals within the speaker-phone. (Col. 1, line 54 to col. 2, line 7).

As is evident, Bjarnason faults the use of multiple frequency bands for introducing a large lag that compromises the perceptual quality of the speech signals within the speakerphone.

Because Bjarnason not only fails to disclose or even suggest but actually teaches away from employing multiple frequency bands as generally recited in independent claim 1, as amended, Bjarnason does not anticipate claim 1, as amended.

Withdrawal of the rejection of independent claim 1 as well as claims 3-5, 11-16, 20-25, 27-31, and 33-40 dependent therefrom, under 35 U.S.C. §102(e) is respectfully requested.

Rejection of Claims 17-19 Under 35 U.S.C. §103

Claims 17-19, 41 and 42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bjarnason in view of well known prior art.

However, because claims 17-19 are dependent from claim 1, claims 17-19 are also believed to be allowable for at least similar reasons as those discussed above.

In addition, independent claim 41 generally recites a level adjusting device having first and second signal processors operable to dynamically adjust first and second signal levels associated with corresponding outgoing and incoming signals with reference to the first and second signal levels, respectively, where each signal processor includes a static gain control component and a dynamic gain control component. The static gain control component being generally static at least for the duration of each and the dynamic gain control component being to dynamically adjust the corresponding signal level.

In contrast, Bjarnason fails to disclose the use of a static gain control component. The Examiner contends (with reference to claim 5) that Bjarnason discloses such a static gain control component (e.g., the detection mode). However, the detection mode merely detects the operation mode of the speakerphone from among various operation modes: namely, receive mode, double talk mode, transmit mode, and silence mode. The model detection itself does not adjust a signal level. In addition, Bjarnason's main control circuitry operates to adaptively (i.e., non-statically) adjust the attenuation parameters based on the detected operation mode.

Withdrawal of the rejection of claims 17-19, 41 and 42 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-2315 (Order No. 05-008).

Respectfully submitted,



Jung-hua Kuo, Reg. No. 41,918 for
Peter Hsieh, Reg. No. 44,780
Plantronics, Inc.
345 Encinal Street
P.O. Box 635
Santa Cruz, CA 95060-0635
Telephone: (831) 458-7758
Facsimile: (831) 426-2965